

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method of constructing a composite structure, comprising:

positioning a plurality of forming elements on a skin panel formed from a composite material in a predetermined configuration;

disposing a stiffening panel formed from an uncured composite material outwardly from the forming elements;

partial-curing the skin panel and the stiffening panel to create a plurality of contact regions between the skin panel and the stiffening panel; and

coupling the skin panel and the stiffening panel with a plurality of fasteners;
and

final curing the skin panel and the stiffening panel to bond the skin panel and the stiffening panel together at the contact regions.

2. (Original) The method of Claim 1, further comprising removing the forming elements after curing the skin panel and the stiffening panel.

3. (Canceled)

4. (Currently Amended) The method of Claim 1 ~~Claim 3~~, wherein coupling the skin panel and the stiffening panel with the fasteners comprises coupling the skin panel and the stiffening panel with a plurality of Z-pins proximate the contact regions.

5. (Original) The method of Claim 1, wherein the skin panel is formed from a composite material selected from the group consisting of a cured composite material and an uncured composite material.

6. (Currently Amended) The method of Claim 1, wherein disposing the stiffening panel comprises spraying a composite material onto ~~outwardly from~~ the forming elements and a first surface of the skin panel.

7. (Original) The method of Claim 1, wherein disposing the stiffening panel formed from the uncured composite material comprises disposing a stiffening panel formed from an uncured composite material having a plurality of discontinuous fibers.

8. (Original) The method of Claim 1, wherein positioning the forming elements on the skin panel in the predetermined configuration comprises positioning the forming elements in a corrugated configuration.

9. (Original) The method of Claim 1, wherein positioning the forming elements on the skin panel in the predetermined configuration comprises positioning the forming elements in a waffle configuration.

10. (Original) A method of constructing a composite structure, comprising:
- positioning a plurality of forming elements on a skin panel formed from a composite material in a corrugated configuration;
 - disposing a stiffening panel formed from an uncured composite material having a plurality of discontinuous fibers outwardly from the skin panel and the forming elements;
 - partial-curing the skin panel and the stiffening panel to create a plurality of first contact regions between the skin panel and the stiffening panel and to create a plurality of second contact regions between the forming elements and the stiffening panel;
 - coupling the skin panel and the stiffening panel with a plurality of fasteners proximate the first contact regions; and
 - final curing the skin panel and the stiffening panel to bond the skin panel and the stiffening panel together at the first contact regions.

11. (Original) The method of Claim 10, further comprising removing the forming elements after final curing the skin panel and the stiffening panel.

12. (Original) The method of Claim 11, wherein coupling the skin panel and the stiffening panel with the fasteners comprises coupling the skin panel and the stiffening panel with a plurality of Z-pins proximate the first contact regions.

13. (Original) The method of Claim 10, wherein the skin panel is formed from a composite material selected from the group consisting of a partially-cured composite material and an uncured composite material.

14. (Currently Amended) The method of Claim 10, wherein disposing the stiffening panel comprises spraying a composite material onto ~~outwardly from~~ the forming elements and a first surface of the skin panel.

15. (Currently Amended) A method of constructing a composite structure, comprising:

positioning a plurality of forming elements on a first surface of a skin panel formed from a composite material ~~selected from the group consisting of a cured composite material and an uncured composite material~~, the forming elements and the first surface of the skin panel creating a predetermined configuration;

forming a stiffening panel from an uncured composite material ~~having a plurality of discontinuous fibers~~ on a tool having a configuration substantially the same as the predetermined configuration;

heating the stiffening panel to a state sufficient enough to enable handling of the stiffening panel while maintaining its configuration;

disposing the stiffening panel outwardly from the skin panel and the forming elements;

partial-curing the skin panel and the stiffening panel to create a plurality of first contact regions between the skin panel and the stiffening panel and to create a plurality of second contact regions between the forming elements and the stiffening panel; ~~and~~

coupling the skin panel and the stiffening panel with a plurality of fasteners proximate the first contact regions; and

final curing the skin panel and the stiffening panel to bond the skin panel and the stiffening panel together at the first contact regions.

16. (Currently Amended) The method of Claim 15, further comprising removing the forming elements after final curing the skin panel and the stiffening panel.

17. (Currently Amended) The method of Claim 15, wherein coupling the skin panel and the stiffening panel with the fasteners comprises coupling the skin panel and the stiffening panel with a plurality of Z-pins proximate the first contact regions.

18. (Original) The method of Claim 15, wherein the predetermined configuration is a corrugated configuration.

19. (Original) The method of Claim 15, wherein the predetermined configuration is a waffle configuration.

20. (Withdrawn) A composite structure, comprising:
a skin panel formed from a composite material;
a plurality of forming elements positioned on the skin panel in a corrugated configuration;
a stiffening panel formed from an uncured composite material having a plurality of discontinuous fibers disposed outwardly from the skin panel and the forming elements;
a plurality of contact regions created by the skin panel and the stiffening panel;
a plurality of fasteners coupling the skin panel and the stiffening panel proximate the contact regions; and
a plurality of bonding regions proximate the contact regions, the bonding regions created by curing the skin panel and the stiffening panel.

21. (Withdrawn) The composite structure of Claim 20, wherein the fasteners are Z-pins.

22. (Withdrawn) The composite structure of Claim 20, wherein the skin panel is formed from a composite material selected from the group consisting of a cured composite material and an uncured composite material.

23. (Withdrawn) The composite structure of Claim 20, wherein the stiffening panel is sprayed on the forming elements and the skin panel.

24. (New) The method of Claim 15, wherein forming the stiffening panel from the uncured composite material comprises forming a stiffening panel formed from an uncured composite material having a plurality of discontinuous fibers.